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SOME OBSERVATIONS  
ON THE  
CLIMATE AND MEDICAL RESOURCES OF  
MADEIRA.

By FRANCIS H. BROWN, M.D., Boston.

Brown (F. H.)

THE knowledge of a forthcoming work on the Island of Madeira, by Dr. Grabham, of Funchal, has prevented me, hitherto, from embodying in an article the results of observations made by me in 1868. The appearance of the book\* this year enables me to give it a notice, and to incorporate with it such of my own observations as may be of interest to the profession, and for the good of their patients.

Dr. Grabham, a member of the Royal College of Physicians of London, driven from his home to a milder climate by the state of his own health, has been a careful and patient observer for a number of years, and, studying, as he has, under the most favorable circumstances and with the experience of former laborers in the same field, may be taken as an excellent authority not only on the climatology of Madeira, but of numerous other localities of the old world to which he refers. His book comes to us from the well-known firm of the Churchills, and is a valuable handbook for those seeking a retreat from the vicissitudes of severe climates.

It is singularly unfortunate that a place, presenting such manifest advantages to patients suffering from pulmonary and other diseases, should have been so little visited by Americans, and it would seem that only a want of knowledge of these advantages could lead to so marked a neglect. Unfortunately, the island is somewhat difficult of access to Americans. As we have hitherto had but little trade with Madeira, communication between the United States and the island has been limited to a chance vessel, or to a circuitous steamer passage by the way of England or France. Except, therefore, to a few Americans only, Madeira is a

forbidden land.\* To our own people Madeira is no less untried than unknown. Until the last year or two our libraries have hardly contained one of the numerous medical and scientific works† which have been written; for hardly any place, so limited in extent, has been so thoroughly worked up by medical men and naturalists, as the island in question. The climate, the meteorological conditions and their effects on invalids have been carefully studied by scientific persons, and the results obtained utilized for the good of the sufferer. In the matter of Natural History, every department has been fully investigated, and many large and exhaustive works have been written on the Fauna‡ and Flora, and the volume of Dr. Grabham completes a series which, in fulness and accuracy, scarcely leaves anything to be desired for a full knowledge of the island.

Madeira is an island, of volcanic origin, situated between the parallels of 32°49'44" and 32°37'18" N. lat., and between 16°39'30" and 17°16'38" of long. W. from Greenwich. Its extreme length is thirty miles, and its greatest breadth twelve and a half miles. Its general shape is an irregular pentagon. Its area is, approximately, 240 square miles. The surface of the Island is extremely broken; at the centre it rises in mountains of from

\* Eight steamers calling at Madeira, both in their outward and homeward passages, now leave England regularly every month, sailing from Liverpool, Southampton and other ports. The steamers are commodious, clean and generally satisfactory; the passage is accomplished in about six days, and tickets are issued at from £12 to £20. To a person accustomed to the sea by the passage to England, the farther experience of the voyage to Madeira can hardly be irksome. Invalids in the latter stages of consumption, to whom railway travelling has become difficult or impossible, are enabled to reach Madeira without undue exertion, and the vessels which now carry passengers are fully furnished for their especial wants. The direct passage, by sailing vessel, from America is about twenty-five days. No passports are necessary in coming to Madeira. The gold and silver coins of all countries are current on the Island. Letters and bills of credit can be drawn on merchants residing in Funchal.

† An excellent collection of medical, scientific and general works on Madeira may now be found at the Boston Public Library; a few also may be seen at the Boston Athenæum.

‡ Brown: Some Observations on the Fauna of Madeira, with list of books appended. Proc. Boston Soc. Nat. Hist., vol. xii., 1868.

\* Grabham: The Climate and Resources of Madeira: London. 1870.

4000 to 6000 feet, and this elevated ridge extends, in almost unbroken continuity, and of an average height of 4000 feet, a large part of the length of the Island. From each coast ravines penetrate the Island to a great depth, separated from each other by spurs, which terminate on the coast in bold headlands, and these again, subdividing and running one into the other, give the whole Island a rugged aspect, a succession of hill and hollow, in endless iteration. The bold, rocky shores of the Island—presenting, as stated by many travellers, the finest coast scenery in the world—its rugged surface and wild ravines, appear like one mass of volcanic mountains, with here and there a space for the villages of the inhabitants.

The Island of Madeira contains something more than 100,000 inhabitants, and the city of Funchal about 30,000.

Madeira forms one of a group which includes properly Porto Santo and the Desertas—all of the same wild character. Madeira, however, is the only one which is resorted to by visitors. Its latitude places it nearly 10° north of the Tropic of Cancer, and a few degrees beyond the winter limits of the North East trades. It is about on the parallel of Charleston, S. C.; while it is nearly 320 miles distant from the coast of Africa, 260 north of Teneriffe, and nearly 300 south of the Western Islands. Moreover, it is in the track of those portions of the Gulf Stream which descend from the N. N.W. toward the African coast, and of that current which runs to the westward of Portugal and along the coast of Africa to the eastward of the Sargasso Sea. The perfect isolation of Madeira, its semi-tropical position and its relations to the Gulf Stream, give it, as a whole, a decided character of uniformity. In addition, the peaks of the Island collect around them a heavy veil of clouds, which shuts off the ardent rays of the sun during the day, while, at night, it prevents the radiation of heat from the earth's surface.

The characteristics of the climate of Madeira are a *mild, moist air, and a marked uniformity of temperature*. The Madeira group will be seen to occupy a space between the isothermals of 64° and 68°. Not to hinder one with long tables and figures, its mean annual temperature is 67°30'\* at the sea level; that is 17° warmer than that of London, and about 9° warmer than that of Nice. Sir James Clark says:—"The mean annual temperature of Funchal, the capital of the Island, is 64°56', being about 5° only above that of the Italian and Pro-

vençal climates. This very moderate temperature, relatively to its low latitude, arises, however, from the summer at Madeira being proportionally cool. For, whilst the *winter* is 20° warmer than at London, the *summer* is only 7° warmer; and whilst the winter is 12° warmer than in Italy and Provence, the summer is nearly 5° cooler.\*" The mean annual range of temperature at Madeira is, as nearly as may be, 9°; the mean monthly progression and recession nearly 2°6'. Its mean temperature for the four seasons is for winter, 61°20'—spring, 65°39'—summer, 70°01'—autumn, 67°87'. The following table, giving the mean quarterly and annual temperature, of well-known resorts, is inserted for reference.

|           | Winter. | Spring. | Summer. | Autumn. | Mean. |
|-----------|---------|---------|---------|---------|-------|
| Algiers†  | 55      | 66      | 77      | 60      | 64    |
| Azores‡   | 57·83   | 61·17   | 68·33   | 62·33   | 62·40 |
| Cairo§    | 58·52   | 73·58   | 85·10   | 71·48   | 72·17 |
| London    | 39·12   | 48·76   | 62·32   | 51·35   | 50·39 |
| Malta¶    | 57·33   | 63·50   | 78·16   | 71·00   | 67·50 |
| Mentone** | 49·5    | 60      | 73·5    | 55·6    | 59·5  |
| Naples††  | 48·50   | 58·50   | 70·83   | 64·50   | 61·40 |
| Pau‡‡     | 41·79   | 54·96   | 67·41   | 55·64   | 54·95 |

In Madeira, therefore, there is only a difference of 9° between summer and winter; whereas, in London, which may represent an English climate, there is a corresponding difference of 23°, and, at Mentone, of 24°. All the foregoing observations concerning Madeira agree substantially with the records of former times, and there is no evidence of any change having occurred, in the period during which observations have been taken. The winters of Madeira are, with rare exceptions, mild; its summers, especially in the higher parts of the Island, to which visitors generally go, are comparatively cool; more particularly to those visitors who seek the Island enfeebled by the debilitating malarial fevers of the African coasts. The description of Plutarch, in his *Life of Sertorius*, of the islands of this region—"the changes of the seasons are almost always gentle and the air is pure and wholesome"—shows that the half fabled, half real *Insulæ Fortunatæ* of the ancients possessed a mild climate in those days, as well as our own. Speaking of the Mediterranean, Bennett says:—"It is well to recollect that, in such a climate, in the warmer temperate zones, winter is, by no means, avoided. The descriptions of the winter climate of Nice, Cannes, Hyère and Italy in general, contained in most books of travel, works on climate and guide books,

\* Clark: *The Sanative Influence of Climate*. London. 1841.

† Armand: *Climat de l'Algerie*.

‡ Humboldt, from Nouet.

¶ Army Medico-statistical Reports.

\*\* Bennett.

†† Broschi.

‡ Blunt.

|| Howard.

‡‡ Christison.

\* Grabham. Op. cit.

are mere poetical delusions. \* \* \* \* I believe that continuous warm weather in winter, and the complete absence of cold days or nights are not to be met with in the temperate regions; only in tropical regions; and those regions present many drawbacks both to health and comfort. If they are considered requisite, however, the tropics, or, at least, Madeira, should be selected, not the Mediterranean.”\* To show that the climate of Madeira is not strictly invariable, we may instance the fact that several unseasonable winters have been recorded.† Such exceptions, however, are rare, and do not invalidate the advantages of the Island in a sanitary point of view. In my quotations, as well as in the general tone of the article, it will be noticed I do not refer to the questions whether diseases are best treated by continuous warmth or cold; the true question seems to be, whether, unless a warm or moist air is decidedly contraindicated, it be not better to adopt the absolute uniformity of Madeira, than run the risk of changeable weather on the Mediterranean, in Florida or Minnesota. If it be decided, in any special case, that a bracing, stimulating climate is desirable, such an one cannot be found in Madeira.

“The mean annual standing of the barometer, corrected for altitude and temperature, is 30.14 inches, and the variations are very slight and infrequent.”‡

The prevailing winds of Madeira are from the N.E.; they are said to blow during nine months of the year. During one year, Dr. Grabham gives 263 days of N.E.—8 of N.—7 of E.—and 62 of W. wind, in 340 observations. The winds from the N., E., and N.E., give the finest weather; those from the W. and S.W. occur at intervals during the winter months, and are the harbingers of the warm rains which occur at that season. In considering the character of Madeira, notice must be taken of the fact that its principal resort for invalids, the city of Funchal, is situated on the southern shore of the Island, completely closed in by high mountains from the direct action of the northerly winds, and only exposed to direct and violent winds at occasional intervals, during certain seasons of the year.

At infrequent intervals during the year Madeira is visited by hot, dry winds from the E.S.E.,§ which usually continue three or four days, called by the Portuguese *lestè*. The southerly wind which is experienced in

the South of Europe, and is called by the Italians the *sirocco*, is, to a certain extent, the analogue of the *lestè*, and yet differs from that wind in certain marked qualities. Whereas the *sirocco* is hot, moist, and relaxing, the *lestè* is hot, dry, and of a stimulating nature. It is the general impression that this wind comes from Africa, and that there—as the *simoon*—it gathers up the sand from the arid deserts and deposits it on the seas and islands to the westward. Darwin attributes the dust which is constantly falling near the Cape de Verde Islands to the wear and tear of volcanic rocks on the coast of Africa. Maury, however, gives a different interpretation to the origin of the microscopic organisms constituting this red dust. “This dust, when subjected to microscopic examination, is found to consist of infusoria and organisms whose habitat is not Africa, but South America, and in the Southeast trade wind region of South America. Professor Ehrenberg has examined specimens of sea dust from the Cape de Verdes and the regions thereabout, from Malta, Genoa, Lyons and the Tyrol; and he has found a similarity among them as striking as it would have been had these specimens been all taken from the same pile. South American forms he recognizes in all of them; indeed, they are the prevailing forms in every specimen he has examined.\*” Without entering on the arguments which Maury introduces to prove his theory of the circulation of atmospheric currents—all of which may be read in his book—we are only interested to know that, in the neighborhood of Madeira, the lower current, which constitutes the *lestè*, comes from the East, and that, during the few days of its continuance, it replaces the moist atmosphere by one of a very dry character. The condition of the *lestè* air is, by no means, too dry for a certain proportion of invalids resorting to that Island—in fact, many are in the habit of expressing their improved condition during its continuance, and desire to live in a perpetual *lestè*—or otherwise, in a uniformly warm and equally dry atmosphere. It needs but a moment of reflection to convince one that a person who improves in Madeira under the *lestè* is, by no means, a fit person for the Island, but should, at once, seek some drier climate; on the other hand, those who feel languid and oppressed under its influence are those who are most likely to be benefited by remaining in a position where the atmosphere is, for the most part, uni-

\* Bennett: Winter and Spring on the Shores of the Mediterranean. London. 1870.

† Gourlay: Natural History of Madeira. Lond. 1811.

‡ Grabham, op. cit.

§ Heineken; Philos. Maga.

\* Maury: Physical Geography of the Sea. New York. 1857.

formly warm and moist, just the climate, in fact, which Madeira offers. It is still farther natural to infer that those invalids who find themselves benefited by the blowing of the sirocco in the South of Europe would be much relieved by a prolonged residence in Madeira, where they will find a mild and moist condition as the normal state of the atmosphere, and the reverse.

The annual rain fall of Madeira is placed at 29 inches. There are, however, considerable variations—in some years, the whole amount has not reached 20 inches, and, in others, it has exceeded 40; but an amount, between 25 and 30 inches, may be looked for with tolerable certainty.\* The rains are of the character generally noticed in semi-tropical countries. In October, it occurs in occasional heavy showers; November and December are generally interspersed with rainy days; the month of January is often without rain, and is, perhaps, the driest and pleasantest month of the year; February is uncertain; March usually brings much fine weather; April and May are spring months, with occasional showers; June is almost invariably cloudy; July, August and September are cloudless months of unbroken sunshine. Even in the winter season, however, there are few consecutive rainy days, and very few in which an invalid need be altogether confined to the house. During January and February snow generally falls upon the mountains, but is seldom seen below 3000 feet above Funchal, and never below 2500 feet. In reference to the humidity of Madeira, the Island is almost invariably bathed in an atmosphere containing aqueous vapor in a considerable quantity, and subject to little variation; and, to the constant presence of this agent, the uniformity of Madeira weather is considerably due. It is only necessary to notice the exuberance of growth of ferns† and other moisture-loving plants, the rapid deliquescence of certain salts, &c., to prove the general moisture of the atmosphere. This statement purposely excludes all tangible fogs, mists and clouds; although the mountains are seldom divested of their curtain of clouds, and they are constantly seen at sea to be resting over the Island, they do not, at any time, descend to the level of Funchal or other portions of the Island frequented by visitors, or indeed below 2000 feet from the level of the sea. The hygrometric condition of the Madeira atmosphere has been observed by many

persons by means of Dr. Mason's\* hygrometer, the inventor of which spent a year in Madeira, and his observations are found to agree substantially with more modern records. The work of Dr. Mason contains much valuable information on the Island, especially in relation to its meteorology.† In Funchal the humidity, taking the mean of the year, is 76, "the most agreeable amount of humidity to healthy persons being when the relative humidity is between 70 and 80 per cent."‡ I obtained the same result by the use of the hygrodeik in Madeira, and a remarkable correspondence existed between the observations on the Island and a series of some 150 observations made to the eastward of the Gulf Stream, while making the voyages to and from Madeira. The atmosphere of the Island is more moist than in our own country, though perhaps not more so than in England—at the same time, the atmosphere is, at no time, damp, understanding, by that term, that moisture and chilliness which we often experience in New England.

With this review of the physical peculiarities of Madeira, we are ready to see the opinions expressed by writers on climate in regard to its adaptability to the cure of disease.

"Dr. Fothergill, who wrote so far back as 1775, and Dr. Gourlay, in 1811, both adduced proofs of the mildness and equability of the climate of Madeira, and its beneficial effects on pulmonary diseases. Till the late Dr. Renton, however, brought the subject before the medical profession, in a paper published in the *Edinburgh Medical and Surgical Journal* in 1817, its advantages were not generally known in England. The observations of Dr. Heineken, published in the *Medical Repository* in 1824, have placed Madeira, as a winter resort for invalids, above any other spot in the northern hemisphere. That the climate of Madeira can prolong life, even under very unfavorable circumstances, the case of Dr. Heineken himself will afford a sufficient proof. This gentleman repaired to Madeira in 1820, when his case was pronounced by some of the most acute physicians in Britain to be rapidly approaching to a fatal termination; nevertheless, he managed to live in comparative comfort for nine years. His death was ultimately occasioned by exposure while returning from the adjacent Island of Porto Santo in an open boat. \* \* \* \* Dr.

\* Grabham: Op. cit.

† Brown: List of the Ferns and Fern allies of Madeira and Porto Santo. Proc. Boston Soc. Nat. Hist.

\* Records of General Science, vol. iv.

† Mason: a Treatise on the Climate and Meteorology of Madeira: London. 1850.

‡ Parkes: Practical Hygiene.

Renton, who, at his request, performed the autopsy, expressed himself astonished how he could have sustained life with so small a portion of his respiratory organs, there being scarcely a vestige of one lung remaining, and the other was in a condition which would not have allowed him to exist in England.”\*

Sir James Clark, in his work on climates, says:—“When we take into consideration the mildness of the winter and the coolness of the summer, together with the remarkable equality of the temperature during the day and night, as well as throughout the year, we may safely conclude that the climate of Madeira is the finest in the northern hemisphere. There is no occasion for a person throughout the winter in Funchal, to breathe, night or day, within doors, an atmosphere below the temperature of 64°; or in the country, during the summer, at such a height as to ensure dryness, above that of 74°†”

Dr. Lund, an English physician who practised for several years on the Island, after giving certain numerical facts regarding the condition of consumptives in England, and referring to the occasional natural cure of the disease, says:—“Experience has proved that persons coming, for various periods of time, to such a climate as Madeira, in the early or, occasionally, in the advanced stages of the disease, have their complaints arrested, when they have the prudence to conjoin proper regimen and treatment with the effects of climate. In all stages the most distressing symptoms are, almost invariably, so much ameliorated as to cause comparatively little inconvenience, and where this relief does not occur, the case is an exception to the general rule. Even in the most advanced stages, the downward progress of the disease is much retarded, all the distressing symptoms ameliorated, and the patient has the great advantage of freely inhaling a balmy atmosphere out of doors, which gives much relief. The great majority are thus enabled to pass with comfort their remaining term of life, and can generally take out-door exercise, or sit in a garden, till a day or two before finally sinking. This affords a great contrast to what the invalid suffers at home, where, being necessarily confined within doors and deprived of many enjoyments, he passes through a long and dreary winter in an artificially heated atmosphere. \* \* \* \* No means as yet discovered can compen-

sate for a natural, mild and pure atmosphere, affording opportunities of regular daily exercise.”\*

Dr. Mittaier, who studied the climate of Madeira on the spot for three years, says:—“It is my opinion that Madeira offers in combination the chief climatic conditions which are indispensably necessary to the recovery of invalids. Notwithstanding what I have said, the question still remains unsolved, whether the best possible place of resort for invalids has yet been discovered; for perhaps even a better place than Madeira may be found. In the mean time, however, Madeira certainly deserves the physician’s most attentive consideration.”

The late Dr. Andrew Combe, writing to a friend, says:—“*If I must go abroad*, I shall most likely return to Madeira, on the simple ground that, if I must forego the pleasures of home, it is better to resort at once to the *most* advantageous climate than to adopt the half measures of going to Italy, Jersey, or the south of England.”†

A brief mention of the diseases likely to be benefited by a residence in Madeira must close the subject.

The great advantage of Madeira, as already stated, is its uniformity of temperature and the mildness of the atmosphere—desiderata which we are the farthest from attaining in the variable and inconstant climate of the Northeastern United States. In all those cases of lung diseases due to congestion, in acute or chronic inflammation of the bronchi, very little relief can be looked for where excessive changes of heat and cold, of wet and dry are continually taking place, as with us, and, still more, in those happy accidents of “curable consumption” which we are confident sometimes take place, where tubercles, and, perhaps, cavities have existed, we can hardly look for such results here. “Again, where one part of any organ is prevented by disease from doing its duty, it becomes doubly imperative that the remaining portion of healthy structure, which has double work to perform, should be placed under as favorable circumstances as possible for the more efficient discharge of its increased functions; hence the necessity of a constant supply of pure air, when only a limited part of the lung is acting. These circumstances show that, if a change is to be made, it should be to some decidedly good climate, possessing advantages sufficient to repay the invalid for the sacrifice he un-

\* White: Madeira, its Climate and Scenery: Edinburgh. 1857.

† Clark: Op. cit.

\* White: Op. cit.

† Combe: Life and Correspondence.

dergoes in leaving the comforts of home. In my own case, I acted, many years ago, according to this advice, and with the best results. \* \* \* \* In addition to those suffering from chest complaints, there are other classes of invalids who are much benefited by a sojourn in Madeira; such as those laboring under morbid conditions of the blood and the diseases arising from this state—rheumatism, scrofula, kidney affections and various chronic diseases, imperfect recoveries after fevers, and those who cannot resist cold and consequently suffer from internal congestions and imperfect action of the skin. Persons suffering from affections of the brain and nervous system or a tendency to apoplexy, asthma, chronic diarrhoea and dysentery, should not be sent to Madeira.”\*

“It is not too much to say that persons *threatened* with phthisis, who are marked with the general evidence of a consumptive tendency, but in whom the disease is not yet locally manifest, invariably escape after one or two winters in this climate. In the latter stages of consumption, a residence in Madeira is by no means powerless, and by it life is often prolonged and rendered comfortable in the most hopeless cases. \* \* \* Of the stages or degrees of consumption likely to be most benefited by the climate of Madeira, all physicians who have hitherto practised here agree in recommending its trial in a very early period of the disease, as that in which the greatest amount of good may be expected. My own experience also leads me to concur in the view that cases of this kind almost invariably derive benefit. \* \* \* In the more advanced stages of consumption a patient is placed, at Madeira, in circumstances which powerfully second a judicious and careful plan of treatment. He is able *at once* to secure the advantage of some kind of open-air life and exercise; and moreover he is, to a very great extent, secure from the collateral complications of an inflammatory character, whether of bronchitis or pleurisy, which are so often known to constitute secondary lesions of much gravity and direct causes of acceleration in the progress of mischief. In the less severe of these cases the disease is not unfrequently arrested, and in very many life is much prolonged. \* \* \* It is by no means unusual to receive persons in extreme sickness, whose cases had been deemed hopeless at home, and to find that they eventually revive. The earliest climatic influences in

such cases is to be observed in the control of hectic fever, nocturnal perspiration and cough; and those have the best prospect of amendment whose tendency to a fatal termination is by successive attacks of bronchitis, pneumonia or pleurisy, and also by the gradual advance of exhausting debility.”\*

One must not look for a sudden or very marked improvement, certainly at first; indeed, the patient should be satisfied if the first few months or the first year show no advance, but only an arrest of the disease. Nature must be the curative agent. Madeira and all similar places merely furnish to the patient the most advantageous circumstances for nature to act, by enabling him to live quietly in the enjoyment of a mild atmosphere. “I would strongly advise every person who goes abroad for the recovery of his health, whatever may be his disease, or to whatever climate he may go, to consider the change as placing him merely in a more favorable situation for the removal of his disease. \* \* \* All the circumstances requiring attention from the invalid at home should be equally attended to abroad. \* \* \* It is in truth only by a due regard to all these circumstances that the powers of the constitution can be enabled to throw off or even materially to mitigate in the best climate a disease of long standing.”†

A few additional remarks on the conveniences for invalids which Madeira offers may serve as a guide to those seeking the Island. Madeira has so long been a resort for English invalids that it has accumulated all those necessities and luxuries of life which are essential to the comfort and well being of the sick, and the visitor need fear no deprivation of home comforts which his forced exile might seem to deprive him of. Excellent hotels, with good food and beds, exist in Funchal. Perhaps the best is that of Mr. and Mrs. Miles, whose kindness and devotion to their patient-guests are remembered by their visitors both from America and England. The price of board at the best houses is low. Persons desiring greater quiet can easily obtain furnished apartments or entire houses (quintas) at moderate rates. Servants accustomed to the ways of English travellers can be obtained, who, if desired, take entire charge of domestic arrangements.

As the climate of Madeira is mild, such clothing as is worn by us in the early sum-

\* White: Op. cit.

\* Graham: Op. cit.

† Clark: Op. cit.

mer is most appropriate. Almost every article of wearing apparel can be obtained in the shops of Funchal, of a fair character and at a reasonable price. Thin underclothing is at all times desirable, and the prudent invalid would hardly fail to provide a change of warm clothing, in case of a possible period of cooler weather. Excellent horses with attendants (*burriqueros*), ox sledges, &c., are provided by the landlords. A frequent method of conveyance is by a hammock borne on the shoulders of men, and, in this manner, the feeblest invalid is enabled to get air on every fine day. The more hardy invalids find abundant amusement in making excursions to various parts of the Island; scientific observers find occupation in studying the Fauna and Flora of

a region of great interest. The gardens of the hotels, the streets of the city and the shops, filled with the beautiful productions of the Island, are favorite lounging places for the less hardy invalids. But very few books can be procured in Madeira. The libraries of the English clubs, however, are easily accessible on proper application. Dr. Grabham and Dr. Brandt, skilful and attentive English physicians, and Dr. Pitta, an eminent Portuguese physician, with others of less note, offer their services to visitors. Good medicines can be procured in Funchal. Services according to the forms of the Church of England and of the Free Church of Scotland are held each Sabbath day in appropriate chapels.

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